CLAIMS

1. (Currently Amended) A system for suppressing wind noise from a voiced or unvoiced signal, comprising:

a first noise detector that is adapted to detect a wind buffet from an input signal by deriving and analyzing an average wind buffet model comprising attributes of a line fit to a portion of the input signal, where the first noise detector is adapted to identify whether the input signal contains the wind buffet based on a correlation between the line and the portion of the input signal; and

a noise attenuator electrically connected to the first noise detector to substantially remove the wind buffet from the input signal.

2. (Previously Presented) The system for suppressing wind noise of claim 1 where the first noise detector is configured to model the line to a portion of a low frequency spectrum of the input signal.

3. (Previously Presented) The system of claim 2 where the first noise detector is configured to fit the line to the portion of the input signal in a SNR domain.

4. (Previously Presented) The system of claim 1 where the first noise detector is configured to model the wind buffet by calculating a y-intercept for the line.

5. (Previously Presented) The system of claim 1 where the first noise detector is configured to prevent a newly calculated value of a selected attribute among the attributes of the modeled wind buffet from exceeding an average value.

6. (Previously Presented) The system of claim 1 where the first noise detector is configured to limit a wind buffet correction when a vowel or a harmonic like structure is detected.

7. (Previously Presented) The system of claim 1 where the average wind buffet model is not updated when a voiced or a mixed voice signal is detected.

8. (Previously Presented) The system of claim 1 where the first noise detector is configured to derive the average wind buffet model by a weighted average of modeled signals analyzed earlier in time.

9. (Original) The system of claim 1 where the noise attenuator is configured to substantially remove the wind buffet and a continuous noise from the input signal.

10. (Previously Presented) The system of claim 1 further comprising a residual attenuator electrically coupled to the first noise detector and the noise attenuator to dampen signal power in a low frequency range when a large increase in a signal power is detected in the low frequency range.

11. (Previously Presented) The system of claim 1 further including an input device electrically coupled to the first noise detector, the input device configured to convert sound waves into analog signals.

12. (Previously Presented) The system of claim 1 further including a pre-processing system coupled to the first noise detector, the pre-processing system configured to pre-condition the input signal before the first noise detector processes it.

13. (Original) The system of claim 12 where the pre-processing system comprises first and second microphones spaced apart and configured to exploit a lag time of a signal that may arrive at the different detectors.

14. (Previously Presented) The system of claim 13 further comprising control logic configured to automatically select a microphone and a channel that senses the least amount of noise in the input signal.

15. (Previously Presented) The system of claim 13 further comprising a second noise detector coupled to the first noise detector and the first microphone.

16. (Previously Presented) A system for detecting noise from a voiced and unvoiced signal, comprising:

a time frequency transform logic that converts a time varying input signal into the frequency domain;

a memory comprising wind buffet line fitting rules;

a background noise estimator coupled to the time frequency transform logic, the background noise estimator configured to measure a continuous noise that occurs near a receiver; and

a wind noise detector coupled to the background noise estimator, the wind noise detector configured to apply the wind buffet line fitting rules to a line fit to a portion of the input signal in the frequency domain to obtain a constrained line adhering to the wind buffet line fitting rules, and automatically identify a noise associated with wind based on the constrained line.

17. (Original) The system of claim 16 further comprising a transient detector configured to disable the background noise estimator when a transient signal is detected.

18. (Original) The system of claim 16 where the wind noise detector is configured to derive a correlation between the line and a portion of the input signal.

19. (Previously Presented) The system of claim 16 further comprising a signal discriminator coupled to the wind noise detector, the signal discriminator configured to mark a voice and a noise segment of the input signal.

20. (Original) The system of claim 16 further comprising a wind noise attenuator coupled to the wind noise detector, the wind noise attenuator configured to reduce the noise associated with the wind that is sensed by the receiver.

21. (Previously Presented) The system of claim 16 where the wind buffet line fitting rules comprise wind buffet slope rules, wind buffet offset rules, and wind buffet coordinate point rules.

22. (Original) The system of claim 16 further comprising a residual attenuator coupled to the background noise estimator operable to dampen signal power in a low frequency range when a large increase in signal power is detected in the low frequency range.

23. (Previously Presented) A system for suppressing wind noise from a voiced or unvoiced signal, comprising:

a time frequency transform logic that converts a time varying input signal into the frequency domain;

a memory comprising wind buffet line fitting rules;

a background noise estimator coupled to the time frequency transform logic, the background noise estimator configured to measure a continuous noise that occurs near a receiver;

a wind noise detector coupled to the background noise estimator, the wind noise detector configured to fit a line to a portion of an input signal, and apply the wind buffet line fitting rules to the line to obtain a constrained line adhering to the wind buffet line fitting rules; and

a wind attenuator coupled to the wind noise detector, the wind attenuator being configured to remove a noise modeled by the constrained line and associated with wind that is sensed by the receiver.

24. (Previously Presented) A method of dampening a wind buffet from an input signal comprising:

converting a time varying signal to a complex spectrum;

estimating a background noise;

fitting a line to a portion of the input signal;

detecting the wind buffet when a high correlation exists between the line and the portion of the input signal; and

dampening the wind buffet in the input signal to obtain a noise-reduced signal.

25. (Original) The method of claim 24 where the act of estimating the background noise comprises estimating the background noise when a transient is not detected.

26. (Previously Presented) The method of claim 24 where detecting the wind buffet comprises applying wind buffet line fitting rules to the line to obtain a constrained line adhering to the wind buffet line fitting rules.

27. (Previously Presented) A method of removing a wind buffet from an input signal comprising:

converting a time varying signal to a complex spectrum;

estimating a background noise;

fitting a line to a portion of the input signal;

detecting the wind buffet when a high correlation exists between the line and the portion of the input signal; and

removing the wind buffet from the input signal to obtain a noise-reduced signal.

28. (Currently Amended) A computer readable memory comprising software that controls a detection of a noise associated with a wind, the software comprising:

a detector that converts sound waves into electrical signals;

a spectral conversion logic that converts the electrical signals from a first domain to a second domain; and

a signal analysis logic that models a portion of the sound waves that are associated with the wind to detect a wind buffet <u>in an input signal</u> by deriving and analyzing an average wind buffet model comprising attributes of a line fit to a portion of the input signal<u>, where the signal analysis logic identifies whether the input signal contains the wind buffet based on a correlation between the line and the portion of the input signal</u>.

29. (Previously Presented) The computer readable memory of claim 28 further comprising logic that derives a portion of a voiced signal masked by the noise.

30. (Previously Presented) The computer readable memory of claim 28 further comprising logic that attenuates portion of the sound waves.

31. (Previously Presented) The computer readable memory of claim 28 further comprising attenuator logic operable to limit a power in a low frequency range.

32. (Previously Presented) The computer readable memory of claim 28 further comprising noise estimation logic that measures a continuous or ambient noise sensed by the detector.

33. (Previously Presented) The computer readable memory of claim 32 further comprising transient logic that disables the noise estimation logic when an increase in power is detected.

34A. (Cancelled)

34. (Previously Presented) The computer readable memory of claim 28 where the signal analysis logic is coupled to an audio system.

35. (Previously Presented) The computer readable memory of claim 28 where the signal analysis logic is configured to model only the sound waves that are associated with the wind.

36. (Previously Presented) The computer readable memory of claim 28 where the signal analysis logic is configured to forgo updating the average wind buffet model when a voiced or a mixed voice signal is detected.

37. (Previously Presented) The computer readable memory of claim 28 where the signal analysis logic is configured to derive the average wind buffet model by a weighted average of modeled signals analyzed earlier in time.

38. (New) The system of claim 1 where the first noise detector is adapted to identify that the input signal contains the wind buffet when a high correlation exists between the line and the portion of the input signal.

39. (New) The system of claim 1 where the first noise detector comprises a non-transitory medium or circuit.

40. (New) The method of claim 24 where the act of dampening the wind buffet comprises applying the input signal to a noise attenuator that comprises a non-transitory medium or circuit.

41. (New) The method of claim 27 where the act of removing the wind buffet comprises applying the input signal to a noise attenuator that comprises a non-transitory medium or circuit.

42. (New) The computer readable memory of claim 28 where the signal analysis logic identifies that the input signal contains the wind buffet when a high correlation exists between the line and the portion of the input signal.

43. (New) A system for suppressing wind noise, comprising:

a noise detector configured to detect and model a wind buffet from an input signal, where the noise detector comprises a non-transitory medium or circuit, where the noise detector is configured to fit a line to a portion of the input signal, where the noise detector is configured to calculate an offset or y-intercept of the line fit to the portion of the input signal, and where the noise detector is configured to compare the offset or y-intercept to a predetermined threshold and identify that the input signal contains the wind buffet when the offset or y-intercept exceeds the predetermined threshold; and

a noise attenuator electrically connected to the noise detector to substantially remove the wind buffet from the input signal.